

EARLY BLIGHT OF TOMATO SEEDLINGS

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Early blight, caused by the fungus *Alternaria solani* (Ell. and G. Martin) Sor., is a destructive disease of tomato seedlings. It is found in most tomato growing areas of the United States, and is considered of major importance in all areas except the Pacific coastal states (1,2). The disease is most severe during rainy weather or periods of high humidity when the air temperature is above 75 F (1).

SYMPTOMS. Leaves - Symptoms first appear as small irregular dark brown to black lesions which may enlarge up to 1/4-inch or 1/2-inch in diameter and form a target-like pattern (Fig. 1A). As the lesions enlarge, the surrounding tissue turns yellow. Defoliation of the leaf may occur where spotting is heavy (1,2,3).

Stems - Small, dark, slightly sunken lesions may form on stems and enlarge in a manner similar to those on leaves. Large brown to black lesions may form at the soil line and coalesce, causing partial to complete girdling of the stem (Fig. 1B). This is known as collar rot. The severely attacked stems may lodge under stress of wind. Such plants should not be transplanted to the field.

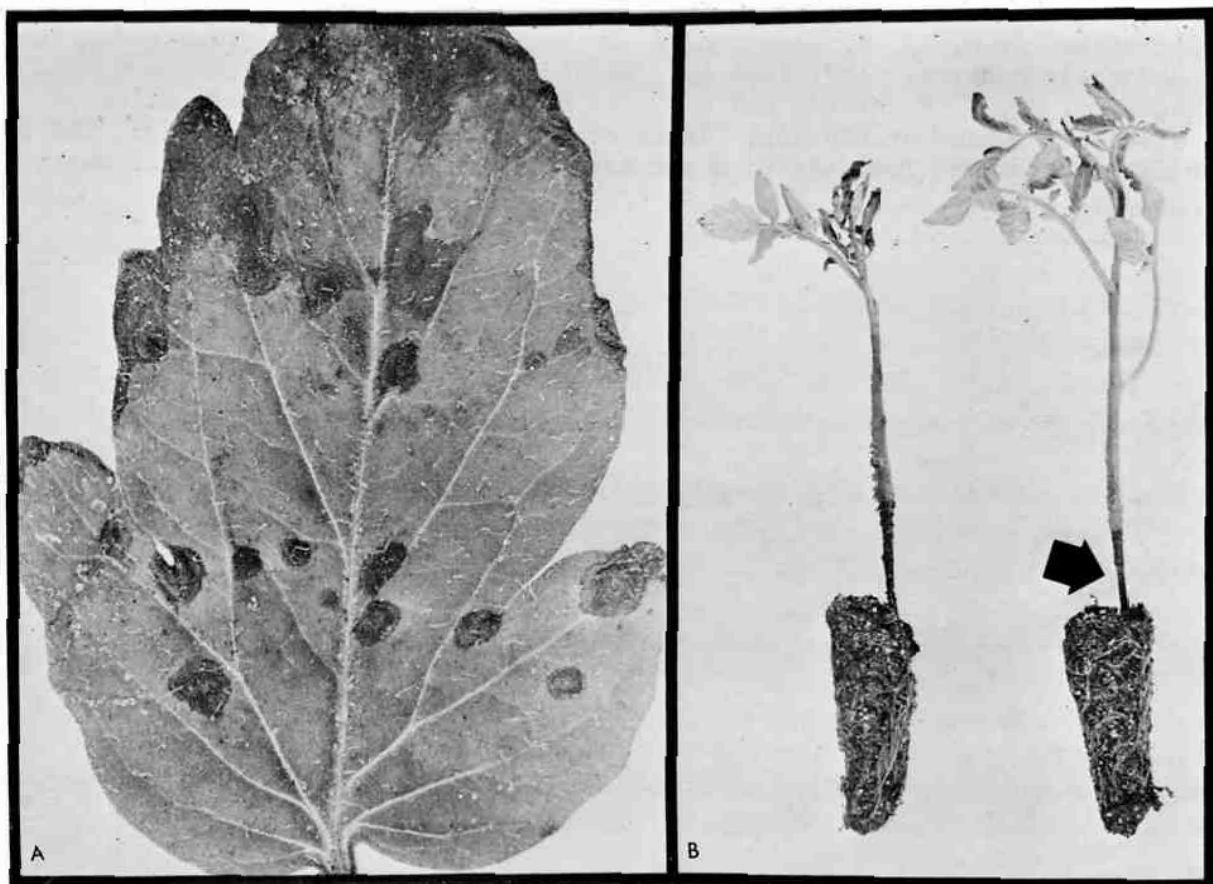


Fig. 1. Early blight of tomato seedlings caused by *Alternaria solani*: A) target-like lesions on leaflet; B) collar rot stage on seedling stem.

CONTROL. The early blight fungus may be carried on seed surfaces but only rarely within the seed. Because of this, seed treatment with dichlone or thiram is advisable (1). The fungus overwinters primarily in decaying plant tissue in the soil, and this is the most important source of primary inoculum for young seedlings (2). Prevention, therefore, must be given a high priority if this disease is to be controlled. In field plantings, the use of land without early blight history, or a carefully planned rotation system should be practiced. Soil sterilized with steam or chemical sterilants (e.g., methyl bromide), should be used for bench grown-plants (2). Hot-bed and cold-bed-grown plants should be watered during the middle of the day so that leaves will dry rapidly. In summary, roguing of diseased plants and watering to avoid prolonged moisture on the foliage will aid greatly in disease control.

Preventive fungicide sprays on a regular schedule aid in the control of early blight in both greenhouse and field plantings. Some of the more commonly recommended fungicides, used in Florida are Manzate 200, Daconil (Bravo), and Dithane M-45 at 1 1/2 lb/100 gal water at 7 to 10 day intervals. Where conditions are favorable for disease build-up, the spray interval should be shortened (3).

Literature Cited

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